Filing Date: January 3, 2001

Title: INTERACTIVE CONTENT DELIVERY METHODS AND APPARATUS (As Amended)

IN THE CLAIMS

Please amend the claims as follows:

- 1. (Currently Amended) A system for providing interactive content comprising:

 hardware adapted to receive one or more first video streams that include video

 data and an encrypted interactive content code, wherein the hardware is
 further to produce a second video stream;
 - an interactive content code detector, coupled to a video stream to be transmitted to local subsystems, for detecting an adapted to detect an interactive content code identified in the encrypted interactive content code, and transmitting to produce a control signal responsive to detecting [[an]] the interactive content code; and
 - a data insertion unit, coupled to the interactive content code detector, for receiving adapted to receive the control signal and inserting to insert interactive content into the second video stream responsive to information contained in the control signal, resulting in a third video stream.
- 2. (Currently Amended) The system of claim 1 wherein the data insertion unit is positioned to insert interactive content into the <u>second</u> video stream <u>immediately</u> prior to the <u>third</u> video stream being transmitted to a transmission source, <u>causing</u> to ensure that the interactive content <u>remains</u> to remain in the third video stream upon transmission.
- 3. (Currently Amended) The system of claim 1 wherein a video stream generator generates the <u>first</u> video stream, and the interactive content code detector is coupled to <u>the an</u> output of the video stream generator.
- 4. (Currently Amended) The system of claim 1 wherein the encrypted interactive content codes are placed code is received in a different stream alternate to the from a stream used to carry the video data interactive content codes.

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5. (Original) The system of claim 1 in which the interactive content code detector and the data insertion unit are coupled to a same point in the transmission path.

- (Original) The system of claim 5 wherein the interactive content code is a universal 6. resource locator and the data insertion unit inserts an interactive content corresponding to the universal resource locator.
- (Currently Amended) The system of claim 1, wherein the encrypted interactive content 7. code is located in a vertical blanking interval of the one or more first video streams, and wherein the interactive content code detector [[is]] <u>includes</u> a vertical blanking interval <u>line</u> reader.
- 8. (Currently Amended) A method for providing interactive content in a broadcast facility that transmits a video broadcast stream containing video for delivery along a transmission path for delivery to end users and contains equipment that may corrupt interactive content, the method comprising:

encrypting an interactive content code, resulting in an encrypted interactive content code;

inserting [[an]] the encrypted interactive content code into a first video broadcast stream, resulting in a second video stream with embedded interactivity, wherein the encrypted interactive content code specifies an interactive content to accompany a video broadcast in the video broadcast stream; processing the second video stream, to produce a third video stream; and reading the interactive content code;

inserting an interactive content corresponding to the interactive content code into the third video stream, to produce a fourth video stream, which includes the interactive content and the encrypted interactive content code.

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9. (Original) The method of claim 8 wherein inserting an interactive content further comprises inserting an interactive content corresponding to the interactive content code at a point in the transmission path after a last point in the transmission path where the interactive content may be corrupted.

- 10. (Currently Amended) The method of claim 8, further comprising wherein reading [[an]] the interactive content code occurs at a point in the transmission path prior to an interactive content in the second video stream being corrupted.
- 11. (Currently Amended) The method of claim 8 wherein the <u>embedded</u> interactive content code is inserted into a region of the <u>second</u> video stream that is preserved by the broadcast facility.
- 12. (Currently Amended) The method of claim 8, further comprising reading the interactive content code, wherein the interactive content is inserted into the third video stream at the a same point in the transmission path at which the interactive content code is read.
- 13. (Currently Amended) The method of claim 12, further comprising reading the interactive content code, wherein the interactive content code is read at a point in the transmission path after which broadcast facility equipment that may corrupt an interactive content is coupled to the transmission path.
- 14. (Currently Amended) A method for providing interactive content in a broadcast facility that transmits a video broadcast stream containing video for delivery along a transmission path for delivery to end users and contains equipment that may corrupt interactive content, the method comprising:

encrypting an interactive content code, resulting in an encrypted interactive content code;

inserting [[an]] the encrypted interactive content code into a first video broadcast stream, resulting in a second video stream with embedded interactivity,

wherein the interactive content code specifies an interactive content to accompany a video broadcast in the video broadcast stream, and wherein the encrypted interactive content code is inserted into a region of the second video stream that is preserved by the broadcast facility; processing the second video stream, to produce a third video stream; and reading the interactive content code;

inserting an interactive content corresponding to the interactive content code into the <u>third</u> video stream at a point in the transmission path after a point in the transmission path where broadcast facility equipment that may corrupt the interactive content is coupled to the transmission path, to produce a fourth video stream.

- 15. (Currently Amended) The method of claim 14 wherein inserting [[an]] the encrypted interactive content code further comprises inserting a plurality of encrypted interactive content codes in different regions of the second video broadcast signal.
- 16. (Currently Amended) The method of claim [[14]] 15 wherein at least one of the different regions is preserved by at least one local subsystem.
- 17. (Currently Amended) A method for providing interactive content in a broadcast facility that transmits a video broadcast stream containing video for delivery along a transmission path for delivery to end users and contains equipment that may corrupt interactive content, the method comprising:

inserting [[a]] an encrypted reference to an interactive content into a region of the

a first video stream, wherein the region that is preserved by the broadcast
facility, resulting in a second video stream with embedded interactivity;

processing the second video stream, to produce a third video stream; and
inserting an interactive content corresponding to the encrypted reference into the
third video stream, to produce a fourth video stream.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

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18. (Currently Amended) The method of claim 17 wherein inserting [[a]] the encrypted reference further comprises inserting [[a]] an encrypted Universal Resource Locator, which includes a link that is linked to an interactive content, into [[a]] the region of the first video stream that is preserved by the broadcast facility.

- - an interactive content code detector, coupled to a the first video stream, adapted to

 detect one or more to be transmitted to local subsystems, for detecting an

 interactive content codes identified within the one or more encrypted

 interactive content codes eode and transmitting to produce a control signal
 responsive to detecting an interactive content code; and
 - a data insertion unit, coupled to the interactive content code detector, for receiving adapted to receive the control signal and inserting to insert interactive content into the second video stream responsive to information contained in the control signal, resulting in a third video stream to be transmitted to one or more local subsystems, wherein the data insertion unit is positioned to insert interactive content into the second video stream immediately prior to the third video stream being transmitted to a transmission source, causing to ensure that the interactive content remains to remain in the third video stream upon transmission.
- 20. (Currently Amended) A system for providing interactive content comprising:

 local equipment, adapted to receive one or more first signals from a broadcast

 facility, wherein the one or more first signals include video data and one
 or more encrypted interactive content codes, and to produce a first video
 stream;

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an interactive content detection unit, coupled to a video stream received from a

broadcast facility, for detecting an adapted to detect an interactive content

code identified within an encrypted interactive content code and

transmitting to transmit a control signal responsive to detecting [[an]] the

interactive content code; and

- a data insertion unit, coupled to the interactive content code detector, for receiving adapted to receive the control signal and inserting to insert interactive content into the first video stream responsive to information contained in the control signal, resulting in a second video stream.
- 21. (Currently Amended) The system of claim 20 wherein the data insertion unit is positioned to insert interactive content into the <u>first</u> video stream <u>immediately</u> prior to the <u>second</u> video stream being transmitted to customer premise equipment, <u>causing</u> to ensure that the interactive content <u>remains</u> to remain in the <u>second</u> video stream upon transmission.
- 22. (Original) The system of claim 20 in which the interactive content code detector and the data insertion unit are coupled to a same point in the transmission path.
- 23. (Original) The system of claim 20 wherein the interactive content code is a universal resource locator and the data insertion unit inserts an interactive content corresponding to the universal resource locator.
- 24. (Original) The system of claim 20, wherein the interactive content code detector is a vertical blanking interval reader.
- 25. (Currently Amended) A method of ensuring reliable delivery of interactive content comprising:

inserting a plurality of <u>encrypted</u> interactive content codes into different regions of data in a video stream to be broadcast to a plurality of local subsystems, wherein the interactive content codes correspond to an interactive content

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to be inserted into the video stream, and each region of data is preserved by at least one local subsystem.

- 26. (Currently Amended) A method of ensuring reliable delivery of interactive content comprising:
 - inserting an <u>encrypted</u> interactive content code into a closed caption region of a video stream, wherein the interactive content code corresponds to an interactive content to be inserted into the video stream, and the closed caption region is preserved by at least one local subsystem.
- 27. (Currently Amended) A method of ensuring reliable increasing a reliability for delivery of interactive content in which a video component of a broadcast signal is used to convey interactive content, the method comprising the steps of:
 - inserting an encrypted interactive content code into a first component of the a first broadcast signal alternate to the a second component, which is used to convey interactive content;

processing the first signal, to produce a second signal;

- detecting <u>an interactive content code identified by</u> the <u>encrypted</u> interactive content code in the <u>first broadcast</u> signal; and
- inserting interactive content corresponding to the interactive content code into the second broadcast signal, to produce a third signal.
- 28. (New) The method of claim 8, wherein encrypting the interactive content code comprises disarranging elements of the interactive content code to produce a scrambled interactive content code.